EXHIBIT "O"

(Curriculum Vitae marked Defendant s Exhibit Q for identification.)

(Slide marked Defendant's Exhibit R for identification.

(Whereupon, the jury entered the courtroom.

THE COURT: Please be seated. Good morning, ladies and gentlemen. We will now proceed with the trial. The defense may call its next witness.

MS. EFFMAN: We call Dr. Jerome Klein.

JEROME O. KLEIN, M.D., after first having been duly sworn by the Clerk of the Court, was examined and testified as follows:

The CLERK: The sworn witness is Jerome O. Klein, K-L-E-I-N

DIRECT EXAMINATION

BY MS. EFFMAN:

Q. Good morning, Doctor

A. Good morning.

Q. Would you please state your full name for the record?

A. Jerome O. Klein.

Q. And Dr. Klein, where do you live?

A. I live in Boston, Massachusetts.

Q. And what is your profession?

A. I'm a pediatrician with a specialty in infectious diseases.

Q. Are you a duly licensed physician?

A. I am.

Q. Practicing physician?

A. Yes.

Q. And how long have you been licensed to be a doctor?

A. I graduated medical school in 1956 and got my first license, other than for being an intern in pediatrics, in New York State in 1957.

Q. And what state did you obtain that license in?

A. Initially, New York.

Q. And taking a step back, Doctor, are you currently licensed to practice medicine in any states?

A. I am.

Q. In what states are you licensed currently to practi medicine?

A. Massachusetts.

Q. And besides New York and Massachusetts, have you be licensed to practice medicine in any other states?

A. Yes.

Q. And what states are those?

A. California.

Q. Would you tell us a little bit about your educationa background starting with college?

A. I'm a graduate of Union College in 1952, Yale Medica School in 1956. I had my first year of pediatric training at University Hospital in Minneapolis, Minnesota, to 1957. At th time, it was a service commitment, and I was in the Public

Health Service and was in a group at the Centers For Disease Control in Atlanta, Georgia, but stationed with the New York State Health Department on Holland Avenue in Albany.

Q. Stopping right there, Doctor. Can you tell us a little bit about that program that you were in?

A. The program was called the Epidemic Intelligence Service, and it was -- there was a movie made about what this program was all about with Dustin Hoffman and Rene Russo. So, I like to feel like I'm a Dustin Hoffman type person. But, essentially, you looked at outbreaks that occurred, and my province was New York State. And of interest is that, at the time, there was a major pandemic of influenza. It was called the Asian Flu, and it's very similar to what we are now experiencing with the so-called swine flu.

Q. Taking a step back to your graduation from Yale University with a degree in medicine, did you do an internship immediately following your completion of medical school?

A. Yes. That was the year in Minneapolis.

Q. And in what particular area of medicine did you do that internship in?

A. That was in pediatrics.

Q. After a year in Minneapolis, is that when you went to the Public Health Service?

A. Yes.

Q. And how long were you in that position?

A. Two years.

Q. Following that position, what did you do next, Doctor?

A. I completed my pediatric training at Boston City Hospital in Boston.

Q. And how many years was that pediatric training?

A. That was an additional two years.

Q. Following completing that, did you participate in a fellowships in the area of pediatrics?

A. Yes. I had a research fellowship in infectious diseases on the Harvard Medical Service at Boston City Hospital. So, that was gaining a fellowship in infectious diseases, and that was for three years.

Q. And can you tell the jury some of the different kin of infectious diseases you dealt with during that fellowship?

A. The City Hospital at the time was a large urban center hospital, 1100 beds. And essentially, you saw everything that occurred in the urban center in Boston. So, there was a lot of disease, an lot of pneumonias. There was still cases of polio. There were secondary infections. Hospital stays were longer at the time than they are now. So, it was a general spectrum of infectious diseases as would occu in about 80,000 people.

Q. And that fellowship was for three years, Doctor?

A. Yes.

Q. Can you tell the jury, what is pediatrics?

A. Pediatrics is the study of infants, children and adolescents. And in different hospitals, the age limit will vary; at my hospital, it's to age 21.

Q. And can you tell the jury what the term infectious diseases means?

A. The study of infectious diseases is those diseases caused by microorganisms. So, it may be bacteria, viruses, parasites, fungi; anything that replicates and multiplies that can cause harm to humans.

Q. Immediately following your completion of your fellowship, did you obtain any positions as a teacher in pediatrics?

A. Yes. I became an assistant professor at Harvard Medical School, then an associate professor at Harvard Medical School.

Q. Over the course of your career, have you taught pediatrics and infectious diseases at any other schools besides Harvard Medical School?

A. In the mid 1970's, the hospital downsized, because hospital stays were getting shorter, more efficient. So, the hospital went from 1100 beds to about 500 beds. And instead of having Harvard Medical School and Boston University and Tufts all in the same hospital, the city administration decided to give responsibility to Boston University. So, I remained and

became a professor of pediatrics at Boston University.

Q. And how long did you serve as a professor of pediatrics at Boston University?

A. Until now.

Q. You are still doing that, Doctor?

A. I am.

Q. And how long were you a professor at Harvard Medica School?

A. From -- well, first assistant, then associate professor from 1962 to 1974, but I still have a faculty appointment at Harvard Medical School.

Q. Now, during the course of all these years, startinc with your completion of your fellowship up until the present time, have you been actively and regularly engaged in the practice of pediatrics?

A. Yes.

Q. And how long have you been a practicing doctor in t field of pediatrics?

A. Well, the practicing responsibilities have to do wi hospitalized children. So, my practice is hospital based, an I will see children in the emergency room, as well as those i the clinics and those who are hospitalized. So, it's all within the framework of the hospital. And in addition to the general practice of pediatrics, I would have consultations in infectious diseases. About three years ago, I stopped being

attending physician; that is, being a physician on the wards and seeing all patients, and narrowed my focus to only consultations in infectious diseases.

Q. Do you still see patients on a consultation basis in Boston?

A. Yes

Q. And what hospital or hospitals do you practice out of currently?

A. It's almost all at what is now called Boston Medical Center. It used to be Boston City Hospital, but I also have clinical affiliations with Massachusetts General Hospital, a rehabilitation hospital called Franciscan Children's Hospital, another rehabilitation facility called Mass. General - I'm sorry - Mass. Hospital School, and have had affiliation with Children's Hospital.

Q. Doctor, have you been seeing patients in the area of pediatrics and infectious diseases for at least 45 years?

A. Yes.

Q. What hospitals have you been affiliated with over the last 45 years?

A. The hospitals that I mentioned; Massachusetts General Hospital, Children's Hospital, the rehabilitation hospitals, as well as my own, Boston Medical Center.

Q. And Doctor, have you served as director of any particular division of Boston City Hospital?

A. Yes. From the mid-1960's until late 1990's, I was head of the Division of Pediatric Infectious Diseases.

Q. And that was at Boston City Hospital?

A. Boston City Hospital, which then was privatized an called Boston Medical Center.

Q. Have you had occasion to serve as chief of infecti diseases at the Franciscan Hospital For Children?

A. Yes. That's one of the rehabilitation hospitals t I mentioned.

Q. And currently, Doctor, you are still seeing patien and you are still teaching medical students about pediatrics and infectious diseases?

A. Yes.

Q. As to your current position, Doctor, in consultati do you have a title, specific title for that position that yc hold currently?

A. I'm Professor of Pediatrics at Boston University School of Medicine.

Q. And you have been there for a couple of decades; correct?

A. Well, I came to Boston to finish my training in pediatrics and stayed.

Q. Early on in your career, Doctor, did you become boa certified in pediatrics?

A. I did.

Q. And could you tell the jury what it means to be board certified?

A. There's a certification process by the specialty groups, and in pediatrics, there's a written examination and an oral examination, and I think I passed that in 1964.

Q. And since that time, have you maintained your certification in the area of pediatrics?

A. During those decades, there was no need for recertification, so I was grandfathered and have not had to recertify.

Q. Do you hold any memberships, any professional societies in the medical field?

A. Yes. Most of the societies are those that deal with pediatrics, such as the American Academy of Pediatrics, and infectious diseases, including the Infectious Diseases Society of America, Pediatric Infectious Diseases Society, as well as the Massachusetts associations that are affiliated with the Academy of Pediatrics and the Infectious Disease Society.

Q. Have you held any positions in those professional societies?

A. Yes. I have been a president of the Pediatric Infectious Disease Society, the treasurer and a counsellor of the Infectious Diseases Society of America, and I think those are the major positions.

Q. Have you been a member of any professional

committees, Doctor?

A. Yes.

Q. Can you tell the jury about some of those committe you have been a member of?

A. I have been a member of committees for the Food an Drug Administration that dealt with biologics and vaccines; a member of the National Vaccine Advisory Committee, which is advisory to the secretary of Health and Human Services; a member of the Board of Directors of the National Foundation c Infectious Diseases; and a member of various committees of th American Academy of Pediatrics.

Q. Over the course of your career, have you been a consultant to any drug companies, Doctor?

A. Yes.

Q. Can you please tell the jury about some of those companies? First of all, can you tell us what it means to be consultant to a drug company?

A. The pharmaceutical and vaccine companies need advic about products that they are developing, directions that they should go, whether products are worthy of being evaluated. And, so, they have advisory committees made up of people who have specialties in the area that they are interested in, and the two areas that I have been involved in are antibiotics an vaccines. And so during the, perhaps, the beginning of the 70's, I was on advisory committees for Eli Lilly,

Bristol-Myers, Hoffman-LaRoche, Pfizer; and the vaccine manufacturers, Merck and Wyeth.

Q. Are you still a member of any pediatric advisory boards in terms of vaccines or antibiotics?

A. Right now, I'm on a subcommittee of the National Vaccine Advisory Committee dealing with vaccine finance and a member of the technical support group for studies in the Far East, in Bangladesh and Pakistan, that are financed by the Gates Foundation and run by Save the Children, which try to bring to developing countries the same level of management of newborns with sepsis, bacteremias that we have. So that, even in conditions where access to medical care is very limited, we can be more effective in saving babies who otherwise would not survive because of overwhelming infection.

Q. Doctor, have you authored any articles in the area of pediatrics and infectious diseases?

A. Yes. Part of the goal of research is to report on what your results are. And, so, I have written a number of research articles, review articles, textbooks dealing with infectious diseases. And over the years, if you are active long enough, they start mounting up, and I think the last time I looked, it was something in excess of 470 articles.

Q. And have these articles been published in textbooks in the area of pediatrics and infectious diseases?

A. They have been published in journals, peer-reviewed

journals, as well as in textbooks.

Q. Doctor, can you tell us the names of some of the textbooks you have had articles or chapters written by you published in?

A. Well, the two textbooks that I'm responsible for, has to deal with ear infections. It's called Otitis Media in Infants and Children. The second, I'm a co-editor of a large textbook on infections of the fetus and newborn infant, and that's now in the seventh edition. The first edition was published in the 70's.

Q. Have you had articles published in a textbook called Textbook of Pediatrics and Infectious Diseases?

A. Yes. There are a number of large general textbooks of pediatrics infectious diseases, and I have had articles in several of those textbooks.

Q. Have you had articles published in a book called The Principles and Practices of Infectious Diseases?

A. I have.

Q. As well as a book called Principles and Practices of Pediatric Infectious Diseases?

A. Yes.

Q. And have you had any articles on the topic of streptococcus pneumoniae published in any of those textbooks?

A. Yes. In the textbooks whose editor is a Dr. Long, have the article on pneumococcal infections.

Q. Now, you talked about your articles have been published in medical journals. Can you tell the jury some of the names of some of the medical journals you have had your articles published in?

A. Well, some of them are general medical journals, like the New England Journal of Medicine. Others are specialty journals, such as pediatrics, Journal of Pediatrics; others are infectious disease journals, such as Clinical Infectious Diseases, Infectious Diseases in Children, the Pediatric Infectious Disease Journal.

Q. Doctor, have you received any awards or honors in recognition of your work in medicine?

A. I have.

Q. Can you please tell the jury about some of those awards and honors you have received?

A. Well, the two that I'm proudest of, the first is an award from -- an annual award from the Infectious Diseases Society of America, which has about 6,000 members, and it's for lifetime achievement, and I received that award in 1995. The second is an award from the National Foundation of Infectious Diseases, which gives an annual award for scientific achievement, and I received that award in 2002. I have also received awards from the Massachusetts Infectious Diseases Society, from the Pediatrics Infectious Disease Society.

Q. Have you ever testified in a trial before, Doctor?

A. I have.

Q. And what kinds of cases do you typically testify i Doctor?

A. There are two. One is medical malpractice, and th second is Vaccine Injury Compensation. There's a program that's funded by Congress where there's a tax on every vacci and vaccines that are approved for universal immunization ar covered, and the monies from that tax go into a fund that, i there should be a rare injury that is thought to be associat with or due to the vaccine, there is compensation that is available through that fund, and it's not a jury process. It a process where there's a special master, a judge, who hears testimony and judges whether the claim is worthy or not, and have testified in those proceedings.

Q. How many times a year do you testify, Doctor?

A. In a trial setting, none to two.

Q. Have you ever testified in a criminal case before?

A. No.

Q. Are you being compensated for your testimony here today?

A. I am.

Q. And what is your fee for your testimony here today?

A. Well, the fee that was agreed on was $2500 for preparation in anticipation of testimony and meetings with yo and Attorney Frost and $5,000 for testimony today.

Q. I show you what's been marked as Defendant's Q. I'd like to ask you if you recognize that document.

A. I do.

Q. What is Defendant's Q?

A. It's a curriculum vitae and a list of publications that was prepared by my secretary in July.

Q. Does your curriculum vitae fairly and accurately reflect your education, training, experience and achievements in medicine, pediatrics and infectious diseases?

A. It does.

MS. EFFMAN: At this time, I offer Defendant's Q in evidence.

MR. GLASS: Your Honor, I object as being unnecessary and cumulative. The witness, Dr. Klein, has just testified, and he can continue to testify to everything contained therein, and I think it's unnecessary to have an additional exhibit bolstering what the witness has just testified to.

THE COURT: Defendant's Q will be received in evidence over objection of the People.

(Defendant's Exhibit Q marked for identification received in evidence and marked Defendant's Exhibit Q in evidence.)

Q. Doctor, have you reviewed medical records concerning [redacted] and [redacted] Thomas?

A. I have.

Q. Can you tell the jury what records you have review
A. I have reviewed the birth records of the twins, as well as the records that are available for the events that t place at Samaritan Hospital and Albany Medical Center, as we as the transport records between the two institutions and fr home to Samaritan Hospital.
Q. Have you also reviewed the pathology report or the autopsy report in this case?
A. I have.
Q. Besides those records, have you reviewed anything else before testifying here today?
A. Yes. Last night, I was given a transcript of the testimony of Dr. Jenny; and this morning, I was shown a statement by the mother on 9/21 and 9/23.
Q. Are these records and materials the kind of materia ordinarily accepted by experts in the field of pediatrics and infectious diseases?
A. Yes, with the exception of the transcript. They ar contemporaneous medical records that were written at the time by the physician and other people who were involved with [redacted]'s care.
Q. And with the exception of the transcript and the statement, are those records and materials the kinds of materials accepted in your profession as reliable in performi professional opinions?

A. Yes

Q. Doctor, do you have an opinion, to a reasonable degree of medical certainty, as to the cause of death of the Thomas baby?

A. I do.

MR. GLASS: Objection, no foundation.

THE COURT: Overruled.

Q. You may answer the question, Doctor.

A. I do.

Q. And, Doctor, what is your opinion?

A. The child died of overwhelming pneumococcal sepsis and septic shock.

Q. Can you explain to the jury the basis of your opinion?

A. The child had an acute infection due to this organism, the pneumococcus, and the other term that you will here is streptococcus pneumoniae, and it probably began with an acquisition of the organisms from another human, presumably in the household, that infected the upper respiratory tract; the nose and throat. This is very common. If you went into a day-care center for infants, you might find a third of them in the winter would have the organism in the upper respiratory tract. But in some infants, it will cause disease, and it can cause disease in two ways.

One, it can spread directly. And, so, from the upper

respiratory tract, it can go through the eustachian tube int
the ear and cause ear infections. It can also be swallowed.
So, it gets into the lung and can cause pneumonia; or from t
respiratory site, it can gain access to the bloodstream and
cause bacteremia, as happened in [redacted]. In many cases, eve
when it causes bacteremia, it's relatively benign. About a
third of the children, their host offenses, their immune
system, their spleen, will get the organism out of the
bloodstream and, even without antibiotics, the infection will
be contained. But in a very small number, the infection will
multiply and progress with its -- the bacteria and its toxins
and result in sepsis, and sepsis is a term that implies a
systemic infection involving the whole body, and that can
result in consequences, including shock. And once you get to
that point, death is -- there's a high probability of death,
and I believe that's what happened with [redacted].

Q. Can you tell the jury, what is pneumococcal sepsis?

A. Pneumococcal sepsis is sepsis due to this organism,
the pneumococcus. So, the implication is that it's not a
localized infection, like an ear infection or a pneumonia, but
it's gotten into the system through the bloodstream and is
giving generalized signs and symptoms.

Q. Doctor, can you tell the jury what is septic shock?

A. Septic shock is when the sepsis progresses to the
point where bodily functions are impaired, and it may be -- th

shock part is when there's cardiovascular collapse, and the mortality rate is very high.

Q. What causes sepsis, Dr. Klein?

A. Well, sepsis in this case is due to this organism, the pneumococcus, getting into the bloodstream and giving general effects.

Q. And how do you know he's got that organism?

A. The blood culture taken at Good Samaritan grew this organism. So, we know that Matthew had it in his blood the morning of the 21st when that blood specimen was taken.

Q. And Doctor, when you say Good Samaritan, do you mean Samaritan Hospital?

A. I'm sorry. I do.

Q. Here in Troy. Thank you. What is the time frame for sepsis to progress into septic shock?

A. There are a number of bacteria, including the pneumococcus, that are fulminant, that you can be entirely well, and hours later, you can be on the cuspis of death. And for reasons that are unknown, there are cases like this, and they often make the evening news; where a student, as an example, went to a party on a Saturday afternoon, and that evening, fell sick and was dead the next morning. Meningococcus can do this, staphylococcus, the streptococcus that causes sore throats, as well as the pneumococcus, this organism, all have that uncommon manifestation of rapidly

occurring fulminant disease that happen so quickly that, oft the patient does not get to a medical facility in time to prevent death.

Q. Is there a time frame in which it evolves from sep to septic shock, a minimum or maximum time frame?

A. Well, a minimum would be hours. It can occur in t fashion that I mentioned, where someone could be well the nig before and dead the following morning. And I have had experience with infants where the mom puts the baby to bed at 11:00 at night, there's some distress noted at 2:00 or 3:00 i the morning; the baby is dead at 6:00 a.m. So that this manifestation of an infectious disease, in this case caused b the pneumococcus, is like a truck running downhill without brakes, and even intervention at some point, as the truck is going down that hill, it's too late for the baby to survive.

Q. Doctor, is it likely a child could take a bottle at 3:00 or 4:00 in the morning, and then at 8:30 or 9:00 in the morning, be beyond help?

A. Yes.

Q. Would you please explain that to the jury?

A. Well, it's this circumstance that I have been describing; that the infection -- and I think in [redacted]'s case, probably began on Friday, with the mom describing fever and that probably involved the infection in the upper respiratory tract. And then during the next hours, when the

organism probably gained access to the bloodstream, and in the blood, it kept multiplying, toxin-producing, so that, still, the baby was able to take a bottle at 4:00 a.m.; and then he gets to the peak and all the bodily functions begin to deteriorate.

Q. Doctor, can you describe how this mechanism, overwhelming sepsis, causes a baby's death, beginning with the natural progression of pneumococcal sepsis?

A. I think I have described it already, but the organism is acquired from somebody else. For a four-month-old, it would be in the household.

Q. Doctor, would it assist you to draw this for the jury on a flip chart?

A. (Witness complying.) So, Mom noted fever on Friday, and that probably is the time when the child already has acquired the organism in the nose and throat. So, we begin, and this would be very common. So that, certainly, many children would have that type of colonization in the upper respiratory tract, and it may be accompanied by signs of a cold at that time or a slight fever, and Mom described that the child had a slight fever on Friday. From the nose and throat, the organism might get, by direct extension, into the ears to cause otitis; or be swallowed into the lung and cause pneumonia.

Or uncommonly, it would get into the blood, and we

call that bacteremia. That's the organism in the bloodstrea And we treat the otitis, the infection in the ears, with antibiotics. Most kids have at least one episode of ear infections. Some kids have a lot of ear infections. Pneumo would be less common, but the pneumococcus is the most important cause of bacterial pneumonia; and even less common for the organism to get into the bloodstream to cause bacteremia.

Even with bacteremia, the vast majority of childre do well and are either treated adequately with antibiotics o clear it by the body's defense mechanisms, but in some children, it will cause sepsis, with generalized symptoms and signs of infection, and if that sepsis progresses, it will go into a shock-like state called septic shock.

Now, as it applies to [redacted], he probably acquired the organism some time prior to Friday, because by Friday, he already is showing some signs with fever. He's looking okay Saturday, but during that period of time, Friday to Saturday, it gets into the bloodstream. There's some evidence that he has pneumonia, as well. And from the bloodstream, he has progression that goes to sepsis and then, finally, when he's the emergency room at Samaritan Hospital, it evolves into septic shock and very rapidly progresses, so that even with t antibiotics given immediately, or very soon after his admissi to Samaritan Hospital, he's beyond survival, and then the

progression to septic shock and death follows.

Q. Thank you, Doctor. Can you demonstrate the pathway on the flip chart of the organism once it enters the body of [redacted]?

A. Well, I think it happens in this sequence. This would be the first entry point (indicating). We know that he had some element of pneumonia and that, probably concurrently, the organism is in the bloodstream and progresses to sepsis and septic shock.

Q. Can you have pneumonia and sepsis at the same time?

A. Yes. They could be parallel. You can also have pneumonia that will progress for the organism to enter the bloodstream. So, the organism can get in the bloodstream directly from the nose or throat, or it might spread to the lungs and go from the lungs into the bloodstream.

Q. Doctor, using the flip chart, can you demonstrate what, if any, conditions you saw in the medical record of Matthew Thomas that are consistent with a diagnosis of sepsis?

A. May I consult my notes?

Q. Yes, Doctor.

A. The indications that this was sepsis and septic shock are both laboratory tests, as well as the various findings on physical examination that the baby had, and I would list the following: And this is the -- the reasons that I think that this child had pneumococcal infection that progressed from

sepsis to septic shock.

Number one is his vital signs. He wasn't able to maintain his temperature. In the medical records, the temperature initially is normal, but then continues to drop t the point where, at Good Samaritan, it is 95.6, but when he gets to Albany Medical Center, it's 94. So, one is his temperature.

Q. And Doctor, if the records reflect the baby's temperature was 97.2 at 9:15 in the morning on Sunday, the 21st, would that be a temperature below normal for an infant?

A. No. That would probably be a normal temperature, b what I think it indicates is that he may have had a higher temperature than what the mother reported; that he had a temperature on Friday. He may have been febrile on Friday an Saturday, but then as the sepsis progresses, he's not able to maintain his temperature, and the temperature begins to fall.

Q. A temperature of 94 degrees, would that be considere hypothermic?

A. It would be. That's an abnormally low temperature. Then, as the day progresses on the 21st, he's not able to maintain his blood pressure. And initially, where the systoli high is 60, it progresses to 50, and then to 40. So, it's a further indication that he's progressing from sepsis to septic shock.

Then the second is the laboratory tests. For white

blood cell count, the normal is five to 10,000; and if you have an infection, usually, white count gets higher. So, one of the reasons we take white blood cell counts is, if it's abnormally high, it suggests a bacterial infection and it would be a sign to use antibiotics to fight that infection. But as the infection becomes overwhelming, the bone marrow is suppressed and is no longer able to fight the infection by putting out white cells. White cells have a life of about 24 hours. When the tests are done at Samaritan Hospital, his white cells were a thousand. So, instead of the normal five to 10,000, or as I would expect with an infection, it would be 10 to 20,000, his bone marrow is suppressed, and that probably has been going on for 12 to 24 hours, and it's a thousand, and then it drops even further to 500.

Q. How does that number affect his ability to fight off the pneumococcal organism?

A. Well, one of the defenses for bacteria infection are your white cells, and here his white cells are being suppressed, so he loses that capability. The other is the most important white cell following infection are called polys. Polys are normally about 20 to 60 percent of your total white cell count, and in infection, the number of polys would rise. It could be 70 to 80 percent to 90 percent. His polys are five percent.

Q. And what is that a sign of, Doctor, if anything?

A. Again, it's a sign that the bone marrow is suppress by the infection and toxins. So, he probably had an elevated white cell count early in the course, and now the sepsis is overwhelming and it's suppressing the white cells. So, he ha this abnormally low count of a thousand. He's producing very few white cells and very few of the bacteria fighting white cells. So, that's an important indicator of this progression from sepsis to septic shock.

In the -- among the hematologic factors that are important, too, are platelets. Platelets are part of your clotting, but they are also an indicator of infection. And when you have overwhelming infection, the platelets are suppressed, just as the white cells are suppressed. So, when he's at Samaritan Hospital, his first platelet count is low. It's a 115,000. The normal low would be 150,000. So, it's already low, and then it's getting lower. It diminishes to 44,000 and then 29,000.

Q. And what is the significance of the low of 44 and 29,000?

A. Well, the most important indicator is of this process; that it confirms sepsis to septic shock. And, so, your platelets are diminished, as well. What we will talk about in a few minutes is that his coagulation, his clotting capability, is also being suppressed, and the platelets are part of the clot, the way you are able to stop bleeding. But

here -- I'm just using it as an indicator of this progression. May I take this off now?

Q. Yes.

A. Again, sepsis, leading to septic shock due to pneumococcus, we are still in that reference frame. The fourth thing is he has problems with getting oxygen into his lungs. His oxygen requirement is not being satisfied, and it's a test that is termed oxygen saturation. We want -- oxygen saturation, normal, for any of us now would be 95 to a hundred percent. His decreased substantially to the 70's. So, they are unable to keep up with his oxygen requirement, and even with ventilation, they are not able to maintain him. So, you don't have oxygen getting to the various tissues, and that eventually will lead to inadequate oxygenation of the various organisms, including the organs, including the heart. So, the failure to -- and it looks like he has a phenomena associated with shock, called ARDS, acute respiratory distress syndrome.

Q. Can you tell the jury what that is, please, Doctor?

A. It's essentially stiff lungs; that you are not able to -- it's not necessarily pneumonia, and the interesting thing is the first x-ray, first chest film that's taken, doesn't show anything; later on, some collapse of lung, some areas of pneumonia, and there's some pneumonia in the autopsy report, but the failure to be able to get oxygen into his lungs to adequately ventilate, I think, is the cause. He's going from

sepsis to septic shock.

The fifth is metabolic factors. So, the sepsis is causing derangement of many functions, and in terms of metabolic factors, is identified by his pH. pH establishes between acidity and alkaline, and our pH normally is about 7.4, and his pH indicates that he has acidosis, more acid, because it drops to seven.

Q. And what does that mean, Doctor?

A. Well, that he's in this deranged metabolic state where he's not able to maintain that -- what we call balance or homeostasis, and then his glucose starts diminishing. His glucose should be 70 to over a hundred, and under stress, it should be even higher. His glucose is dropping. So, his metabolic functions are deranged now.

So, we have talked about vital signs, suppressed bone marrow, difficulty in ventilation, difficulty in maintaining his metabolic functions, and the last one is he gets into problems with clotting. So, he has a problem with coagulation or clotting.

Q. What does the term coagulation mean, Doctor, for the jury?

A. Coagulation is actually a mode of developing clot to stop bleeding, and bleed progresses to a condition called disseminated intravascular coagulopathy, if I can draw that. So, this term, which is in the medical record - the diagnosis

is made based on the laboratory tests - is called DIC. The D stands for disseminated, meaning it's widespread. The I is for intravascular, meaning it's within blood vessels, and the C is the coagulopathy. And there are two laboratory tests, plus the platelet count, that identifies that this is happening. One is called the prothrombin time. The other is called the acute platelet chromoplastic time. Both of those are abnormally high. He's not able to get the best result in terms of those clotting factors.

So, disseminated means it's widespread. Intravascular means it's within the blood vessels, and the coagulopathy means that the clotting is deranged. So, what happens is in blood vessels -- let's say this is a blood vessel. There's inflammation and deposition in the blood vessel that increases to the point where blood can't get through. There's a thrombosis in those vessels, and it usually leads to hemorrhage in the surrounding area and dead tissue, and dead tissue is called an infarct. So, there's usually evidence that is in the autopsy of infarct plus hemorrhage. And in the autopsy report, there is an identification of infarct plus hemorrhage in the heart, the testes, and it may contribute, also, to the retinal hemorrhage and the bleeding in the head.

So, if you are not able to clot, then you could have bleeding in any organ; and at the autopsy, they noted in the

microscopic examinations, heart and testes, but also could be, where there was examination by the ophthalmologist, in the retina, as well as the bleeding in the brain.

Q. Doctor, is there, in fact, association between coagulopathy or disseminated intravascular coagulopathy and overwhelming sepsis?

A. Yes. This is usually a result of overwhelming sepsis. There may be other reasons. I don't know them. But the vast majority of DIC will be due to an infection.

Q. Do you have an opinion, to a reasonable degree of medical certainty, as to what caused the coagulopathy problem in this child?

A. Yes.

Q. And what is your opinion?

A. It's the pneumococcal bacteremia, sepsis and septic shock.

Q. If there's bleeding in the heart and the testes due to coagulopathy, is it possible to have bleeding in the brain due to coagulopathy?

A. You can have bleeding in any organ. It can go anywhere, because the same phenomena is occurring throughout the body. It can occur in the brain, the eye, heart and testes, as was identified at autopsy.

Q. And why was it occurring everywhere or anywhere?

A. Because it's general. All these clotting factors are

in the blood. So, wherever the blood would go, the possibility of the blood vessel being involved, as in this case, could result in the hemorrhage and infarct.

Q. But if there's bleeding in the testes and the heart due to coagulopathy, then it would also follow, Doctor, that it's possible to have bleeding in the eyes due to coagulopathy?

A. Yes; eyes, brain, anywhere in the body.

Q. Based on the medical records you reviewed, Doctor, when did the coagulopathy problems start, if you know?

A. If we anticipate that the child's pneumococcal infection began earlier than the first indication of fever - that was on Friday evening - and that the bacteremia, the organism in the blood, followed during the next hour or so, and that the consequences leading to septic shock and his metabolic vital sign changes occur when the child appeared on the morning of the 21st, the DIC occurred during that progression.

Q. If a child is kept alive -- strike that. Before testifying, Doctor, did you review the records from Albany Medical Center?

A. Yes.

Q. And is there evidence that this child was on a ventilator for several days prior to being pronounced dead?

A. Yes.

Q. And during the time -- if someone has a coagulopathy problem, Doctor, and they are being kept alive on a ventilator,

would that coagulopathy problem continue while they are on a ventilator?

A. Yes. All the problems that I have identified with the two charts - the vital signs, the lab tests, white blood cells and platelets, difficulty in ventilation, the metabolic factors and the coagulopathy factors - would continue during this time, so that the DIC would also progress. Now, he did get transfusions, platelet transfusions that would mitigate that to some extent, but it would not really have an impact on the coagulopathy.

Q. So, while the child is on the ventilator, there could be additional fresh or new bleeding because of the coagulopathy problem?

A. Yes.

Q. Once overwhelming sepsis sets in, how soon after that would the coagulopathy problems start?

A. Well, we only have tests at one point in time, upon the admission to Albany Medical Center. So, we know it happened with those first lab tests on the 21st, but we don't know how much in anticipation of them in time it would have occurred, but probably hours.

Q. Thank you. You can return to the stand. Thank you.

(Documents marked Defendant's Exhibits S and T for identification.)

Q. Doctor, can you explain for us, are certain age

groups more prone to sepsis?

A. Yes.

Q. Can you tell the jury about what, if any, impact age has on sepsis?

A. Infants are at highest risk, and the first year of life is the highest among that age group, and that's why physicians are usually very alert for any signs that might suggest sepsis, to begin antibiotics very early.

Q. Why are infants more susceptible to the pneumococcal organism?

A. Well, it's not only pneumococcal. The other bacteria is important, too; the streptococcal, staphylococcal, meningococcal infections, and it's probably because their immune systems are not yet mature enough to develop protection against those organisms. That's why we begin immunizations at two months of age, to try to bolster their immune protection.

Q. Doctor, assuming -- you are aware from the records that Matthew Thomas was born at 33 weeks. Would you consider that as premature?

A. Yes.

Q. And when a child is born premature, is there any impact on the child's immune system or their ability to fight off infection based on their being born premature?

A. Well, there are two issues. One is, during pregnancy, the mother delivers antibodies to the baby that are

accentuated during the last weeks. So, if you are born at 33 weeks, rather than 38 weeks, you are not getting the mother's passively transmitted antibodies across the placenta into the baby, into the fetus. That's one element, that prematures are more acceptable to infection.

The second is that the immunity system, immunologic system, has to be prepped and built up, and the infant, particularly the premature infant, has a relatively immature immune system, and it's not until months later that they are able to get an immune system that is more protective. So, the first year of life is really a vulnerable period in terms of the pneumococcus and these other organisms.

Q. What, if anything, do pediatricians do to help protect a child against this?

MR. GLASS: Objection, Your Honor, unless the doctor knows what happened in this case.

THE COURT: Sustained.

Q. Doctor, did you examine the pediatrician records for the Thomas baby?

A. I did.

Q. And are you aware of whether or not this child received any shots to help protect him from infections?

A. I did see that.

Q. Tell the jury what you saw.

A. In terms of the pneumococcus, we now have a very

effective vaccine that's cut down on problems such as Matthew had by substantially, by about 80 percent, but you need vaccine to be given at two, four, six months, and then a booster dose at 12 months. That's the regular schedule. The reason we do it at two, four, six months is because the first one has a relatively modest effect, very little, but it has a so-called memory, so that when you give the four-month dose, you get a boost. The body remembers that you got the two-month dose. Unfortunately, [redacted] had the two-month dose, but had not yet gotten the four-month dose. So, the protection afforded by the vaccine was minimal.

Q. Are there any factors that make recovery from overwhelming sepsis difficult?

A. In the sense that if it's -- if you reach the point where the sepsis as progressed to septic shock, then the attempt to manage the infection often fails. As we know in this case, the baby is treated appropriately and aggressively at both Samaritan Hospital and Albany Medical Center and doesn't survive. So, this infection has overwhelmed the baby at that time, when the baby is admitted to Samaritan Hospital; and unfortunately, those cases will continue to occur, and we will hope that we can get enough doses of the vaccine in to get to the four-month and the six-month, where the baby will be protected. But in this interval, the baby is still highly vulnerable, and the vaccines will not yet be sufficiently

protective.

Q. Doctor, are you familiar with -- what did Albany Medical Center and Samaritan Hospital do to try to treat the bacterial infection?

A. Well, the mode of treating the bacterial infection is with antimicrobial agents, and he got the right antibiotics at Samaritan Hospital, and it was continued at Albany Medical Center. So, they gave him the right drugs. It just was too late.

Q. What's the time frame for effective treatment with these drugs, Doctor?

A. Well, the time frame is that you give them early enough before the sepsis is overwhelming. And sometimes, because the infections are so fulminant - they are so dynamic in their course and overwhelming the patient - we are unsuccessful.

Q. Doctor, do you have an opinion, to a reasonable degree of medical certainty, as to what was the prognosis for Matthew when he was at Samaritan Hospital?

A. Well, at the time, they didn't have all the facts that we have now in terms of the progression and the various laboratory tests. The blood culture was taken, but they didn't know the result until some 24 hours later. So, they treated the child for presumed sepsis appropriately, but they still were uncertain about what the reasons for his illness were.

Q. Doctor, do you have an opinion as to whether -- strike that. Do you have an opinion as to the state of health of [redacted] upon his arrival to Samaritan Hospital and during his stay there?

A. Well, we know that he wasn't survivable when he arrives at Samaritan Hospital.

Q. Doctor, do you have an opinion whether sepsis can be caused by trauma?

A. Yes.

Q. What is your opinion?

A. I know of no reason why trauma would cause sepsis.

Q. And can you please explain your opinion for the jury?

A. Well, we are dealing with an infectious organism and its consequences, and if you get a bruise or a head trauma, it has nothing to do with the immune system or the progression of the infection from the throat to the lungs or the bloodstream. So, any attempt to make a connection between head trauma and the progression of the infection would be highly speculative.

Q. Do you have an opinion as to whether streptococcus pneumoniae can be caused by trauma, Doctor?

A. Streptococcus pneumoniae is a microorganism. It's acquired via the respiratory tract by droplets from another human and has nothing to do with trauma.

Q. And how many years have you been studying, researching, teaching and writing about streptococcus

pneumoniae?

A. It would be since the early 60's.

Q. Doctor, based on the autopsy report, was there any evidence the child had acute and chronic pneumonia?

A. The autopsy does identify acute and chronic pneumonia.

Q. Can you define the terms acute and chronic for the jury?

A. Acute is during the immediate period; in an autopsy, prior to death. The chronic is indeterminate. I don't know what the term meant, as the pathologist described it, but it would mean it was more prolonged in time, but I don't see any indication in the medical records that would support a pneumonia that was over a prolonged period of time.

Q. Do you have an opinion as to how the child developed pneumonia?

A. Yes.

Q. And what is your opinion?

A. It was by the methods that I outlined; acquired through the respiratory tract, spread directly by swallowing into the lung, and then causing some inflammation in the lung.

Q. What does the term aspirate mean for the jury?

A. Aspirate means that you have a foreign body or some substance that you've aspirated inadvertently. The gag reflex usually is capable of preventing food from getting into your

lung. So, as you swallow during a meal, the food -- there's a lid that goes over the trachea, and your food goes down the esophagus into your stomach. So, that's your protective mechanism. If you are inebriated and you vomited, for example, you might aspirate. The vomit gets into your lung because your gag reflex would have been suppressed by your inebriation. So, that would be aspiration. If you drown, you can -- again, your gag reflex is less active, and water would get into your lungs. That would be aspiration of water. So, it's usually an event that occurs because the gag reflex is not operating appropriately and stuff that should go into your stomach goes into your lung.

Q. Did you see any evidence in the records you reviewed that this child had any problems gagging?

A. I'm sorry?

Q. Did you see any evidence in the records you reviewed that the child had problems gagging?

A. No.

Q. From the records you reviewed, did it appear that the gag reflex was intact?

A. From what I understand, the child had a feeding at 4:00 a.m. that was entirely normal, and I understand from you that the mother reports that the child had no problem with prior feedings. And what you would expect, if there was a problem with aspiration, is the child's gag reflex would have

been suppressed in some fashion and that he would cough, choke, show some signs that the food, instead of going into the stomach, had gone into the lung.

Q. Doctor, based on your 50 years of experience in pediatrics and infectious diseases, is it likely that one can develop pneumonia from aspirating as a result of head trauma?

A. Yes. One could imagine that, if the head trauma was such that the child was comatose, was not responsive, and that the gag reflex was suppressed and he had a feeding at the time, so some material was in his mouth, that he could aspirate that material into the lung because the gag reflex was suppressed.

Q. And did you see any evidence of the child being comatose before he arrived at the hospital?

A. No.

Q. Assuming the child had a normal feeding at 11:00 or 12:00 at night and then had another feeding at 3:00 or 4:00 in the morning, and assuming there were no reports that the child had any choking spells in the day before he went to Samaritan Hospital, do you have an opinion as to whether or not this child could have aspirated?

A. I do.

Q. And what is your opinion?

A. There's no signal or evidence that the child aspirated.

Q. Doctor, do you have an opinion as to whether head

trauma can affect your immune system?

A. I do.

Q. And what is your opinion?

A. There's no connection.

Q. Doctor, in your opinion, did the alleged head trauma have anything to do with the child developing pneumonia?

A. I do. I have an opinion.

Q. What is your opinion?

A. It had nothing to do with the pneumonia.

Q. Can you explain your opinion for the jury?

A. The pneumonia is an infectious process. We have talked about the acquisition of the organism, the multiplication of the upper respiratory tract, the organism then being swallowed into the lung causing the pneumonia. The only way that head trauma could be involved is if the child's gag reflex was not operative and that he aspirated some glob of stuff into his lung, but there's nothing in the autopsy or the chest x-rays that indicates aspiration.

Q. And which chest x-ray are you referring to, Doctor?

A. Well, the initial one doesn't even show pneumonia. Later on, there are several processes that are identified including atelectasis. Atelectasis means collapse of the lung. It's not pneumonia. It's just that the lung in a certain area is collapsed, and then there is the possibility of pneumonia in the x-rays.

Q. If there had been aspiration due to alleged head trauma, would you expect to see evidence of that in the first x-ray done at Samaritan Hospital?

A. Well, you might. I'm not sure it's absolute, but if there was significant aspiration, one would think it would show up.

Q. Doctor, did alleged head trauma have anything to do with this child developing pneumococcal sepsis?

A. No.

Q. Can you explain that opinion for the jury?

A. This child dies of an infectious disease. He dies of overwhelming pneumococcal sepsis and septic shock. There's no relationship with trauma and this infectious process.

Q. Doctor, did alleged head trauma have anything to do with this child developing septic shock?

A. No. The septic shock is a consequence of the infection. So, the issue is, the tragedy is that this child developed an infection that progressed and was so overwhelming that he couldn't survive. He dies of pneumococcal septic shock.

Q. Doctor, assuming that CT scans taken at Albany Medical Center on 9/21/08 report bilateral subdural fluid collections, does that have any impact on your opinion as to the cause of death of this baby?

A. No.

Q. And why not?

A. The sequence that I mentioned could include bacteremia going to the brain and causing inflammation in the brain, as well as subdural collections in the brain. But the autopsy doesn't show any substantial meningitis. So, I think that, although it's possible that there was a process beginning by the time of death, it hasn't progressed to the point where there's gross infection in the brain. So, I think it remains that the almost certain diagnosis and cause of death is the overwhelming sepsis and septic shock, not a brain infection.

Q. And Doctor, assuming that CAT scans from Albany Medical Center reported bilateral subdural hematomas, does that have any impact on your opinion as to cause of death?

A. No.

Q. Doctor, assuming that the autopsy findings include a finding of a subgaleal hemorrhage, does that have any impact on your opinion as to the cause of death?

A. No.

Q. And assuming that the autopsy report reported a subarachnoid hemorrhage, does that have any impact on your opinion as to cause of death of this baby?

A. No.

Q. Based on your review of the records and your training, experience of 50 years, Doctor, can you determine, with a reasonable degree of medical certainty, when the sepsis

began to develop?

A. By history, we know that the baby had a clue as to when it developed on Friday with the minimum temperature elevation, so that there had to be some hours or even a day or so prior to that time that the infection was acquired and began to multiply to the point where the baby was febrile on Friday.

Q. What are the clinical signs of sepsis?

A. Sepsis is very nonspecific. You can have fever, irritability, difficulty feeding, something that is not right, is usually a point that mothers know. Mothers will come in and tell you, "The baby is not right." And it may not be anything specific, but that's the challenge to pediatricians, to distinguish the many babies who have viral infections, flu-like illnesses, from the few that have sepsis, such as in Matthew's case.

Q. Is pneumococcal sepsis contagious, Doctor?

A. It's minimally contagious in the sense that there usually aren't epidemics of pneumococcal infection, but it is human to human transition. This is a large household. It's undoubtedly -- that this four-month-old, who remained in the household, acquired the infection from another member of that household.

Q. Doctor, assuming that this was a household of nine people, and this baby was the only one who had report of a fever, who presented a sign of illness, does that mean that no

one else in the household was carrying the infection or the organism?

A. No. As I mentioned, if we went to a day-care center, we took all the kids under a year and swabbed their throats, we would probably find 30 percent would be carrying the organism. So, it's very common, and the vast majority of people, vast majority of infants never get to the point where it causes disease. But in a few, they will get either ear infections, less commonly pneumonia, and even less commonly bacteremia, and even a fraction of the bacteremia that will go on to sepsis and septic shock. So, it's a common organism, but it's like a pyramid, where the base of the pyramid is the many infants who are colonized, and then you go to a few who will have ear infections, fewer who will have pneumonia, fewer who will have bacteremia, and the very few at the peak of the pyramid who will have sepsis and septic shock.

Q. Doctor, fair to say that somebody could carry the organism and not have any visible signs of illness?

A. The vast majority of infants will be in that category.

Q. As well as any other young children or adults?

A. Yes.

Q. Doctor, are there other things that can cause bone marrow suppression?

A. Yes.

Q. Can you tell the jury about that?

A. If you have leukemia, a malignancy, it will cause bone marrow suppression. There are some chemicals, drugs that will cause bone marrow suppression. There are some poisons that will cause bone marrow suppression. But in the usual events of an infant's life, it's almost always infection.

Q. Did you see any evidence in the records of these children from birth to September 21st and 22nd that would indicate the cause of bone marrow suppression was anything other than overwhelming sepsis?

A. I saw nothing that would indicate, other than infection, being the cause.

Q. Doctor, in your opinion, to a reasonable degree of medical certainty, based on your 50 years of experience in pediatrics and infectious diseases, can you rule out head trauma as a cause of this child's death?

A. I think head trauma has nothing to do with his death; that his death is caused by an overwhelming infection, and head trauma is not a part of the cause of death.

Q. And based on your work of 50 years in pediatrics and infectious diseases, is overwhelming sepsis leading to septic shock a well-recognized cause of infant death?

A. It is, and often you hear it on the evening news, because it's so dramatic; that a child or adolescent, or even adult, who has been well, all of a sudden has an overwhelming

infection and dies within hours, and it is so dramatic that it makes the newspapers, television, and it's a well -- fortunately, uncommon, but well-recognized consequence of overwhelming infection.

MS. EFFMAN: One moment, please. No further questions.

THE COURT: Thank you. Mr. Glass?

MR. GLASS: Your Honor, could we take a break to go over all these notes before we start cross-examination?

THE COURT: Is ten minutes sufficient, 15?

MR. GLASS: Fifteen would be great.

THE COURT: Members of the jury, we will take a 15-minute break at this time. Please do not discuss the case among yourselves or with anyone else. Do not read or listen to any media accounts of this case. Do not visit any premises involved in this matter. Do not conduct any research regarding this matter. Do not request or accept any payment in return for supplying information regarding this case. Do not make any judgments regarding this matter until you have heard all of the evidence and been instructed as to the law. If anyone attempts to improperly influence you, please report it directly to me without discussing it with anyone else first. Thank you.

(Jury excused.)

THE COURT: Doctor, as you remain a sworn

witness, I will ask you, please do not discuss this case or your testimony with anyone until your testimony is complete. Thank you.

(Brief recess taken.)

COURT OFFICER: Jury is entering.

(Whereupon, the jury entered the courtroom.)

THE COURT: Please be seated. The sworn witness remains Dr. Klein. Mr. Glass, whenever you are ready.

MR. GLASS: Thank you, Your Honor.

CROSS-EXAMINATION

BY MR. GLASS:

Q. Good morning, Doctor.

A. Good morning.

Q. I have to say, I don't think I would have chosen Dustin Hoffman for that movie role. I think you are more the Harrison Ford or Tom Cruise type myself. I note this is your first day here, but I have to get something out of the way that has been going on with all of our medical witnesses. You testified in great detail on direct examination as to your professional qualifications and board certifications and the like, but I guess I have to get out some of the things that you are not. Okay? First of all, you are not a board certified forensic pathologist; correct?

A. Correct.

Q. Or any kind of a pathologist. Would that be a fair

statement?

A. It would.

Q. And if you disagree with me, please let me know. And you are not a board certified ophthalmologist; correct?

A. I am not.

Q. Or a board certified radiologist?

A. Correct.

Q. Not a board certified neurosurgeon?

A. Correct.

Q. And you are not board certified in pediatric critical care?

A. I am not.

Q. And that's a recognized subspecialty of pediatrics?

A. It is now.

Q. And you are not board certified in emergency medicine, either; are you?

A. I am not.

Q. And have you ever been declared an expert in the area of pathology?

A. No.

Q. And in your pediatric process, you have never specialized in infant neurosurgery or infant neuropathology. Is that correct?

A. I have not.

Q. Now, I gather from your direct testimony that what

you are doing these days is mostly consulting and teaching. Would that be a fair statement?

A. Not entirely, in the sense that the consultations are in infectious diseases in the hospital. So, we have a consultant service that provides services to patients whenever the physician wishes to have additional information about an infectious process. So, patient care is one aspect. Teaching is a second. Research is a third, and writing, consultations to industry, government, would be the fourth.

Q. Okay. But as far as having a, shall we say, a patient caseload, that is something you don't have anymore?

A. Well, it would in the times that I am on the consultant service.

Q. Okay. But not as an attending, because you are not doing --

A. No. I have given up the general pediatric portion.

Q. Okay. Now, I'm sure you can imagine why I asked you those questions, because just a few moments ago, there was a number of questions asked of you regarding your professional medical opinion with reasonable medical certainty with respect to head trauma versus some infectious disease. And in this case, I believe you are talking about sepsis and septic -- or overwhelming septic shock; correct?

A. Yes.

Q. As far as head trauma goes, some of the specialties

that I mentioned deal specifically with head trauma?

A. Yes. I think the only questions that I felt were within my areas of expertise were those that related head trauma to infection.

Q. Okay. So, you are not sitting here diagnosing a lack of head trauma in this case? In other words, you are not telling us there was no head trauma; are you?

A. No.

Q. In fact, there was head trauma. You would agree with that?

A. The aspect that I related was that the coagulopathy could cause bleeding anywhere, including the head; but other than that general statement, I would not give an opinion about head trauma.

Q. Okay. I guess, then, what you are saying, and correct me if I'm wrong, is that you can't say whether or not the bleeding in the brain was caused by coagulopathy or head trauma; correct?

A. That the coagulopathy could cause bleeding in any organ, including the brain.

Q. Spontaneous bleeding?

A. It's not spontaneous in the sense that --

Q. There has to be some force that resulted or causes the bleeding; correct?

A. Right. And what I had described was that infection

could cause the coagulopathy, which could cause failure to clot.

Q. Okay. There's a lot of coulds there but, okay, I understand where you are coming from. And also, I can't help but comment on the fact that, during the course of your direct examination, we heard the word "probably" quite a few times; correct? This "probably" happened; that "probably" happened?

A. Well, if you could be specific, I would review that.

Q. It was early on in your direct. I don't have the notes specifically, but I will pass on that for right now. Now, you testified that in your review of the records -- why don't we back up for just a moment? I just want to go over with you the things that you did review on which you base the opinions that you stated during your direct examination. Okay? I think you said you examined the autopsy report.

A. Yes.

Q. And the records of birth of both twins from Albany Medical Center?

A. I did.

Q. And that included their stay in the Neonatal Intensive Care Unit?

A. Right.

Q. And then they were transferred to another hospital, and I don't want to confuse you, but this one was St. Mary's?

A. Yes.

Q. You reviewed those?

A. I did.

Q. And did you review the records dealing with the well-baby checkups?

A. I did, and focused on the immunization series.

Q. Okay. And did you review the records of the September 13, 2008, hospital visit to the Emergency Department at Samaritan Hospital?

A. I did.

Q. And I'm pretty sure you looked at the September 21st visit to Samaritan Hospital, to the emergency room, and the subsequent -- and the transport there by the ambulance?

A. Yes.

Q. And then the transport from Samaritan to Albany Medical Center, and then the Albany Medical Center records, as well; correct?

A. Yes.

Q. Did you review the OB/GYN records of the mother?

A. No.

Q. And I think you testified that you reviewed a statement of [redacted] mother or a couple of statements of Matthew's mother?

A. Yes.

Q. And did you review the statements of the Defendant?

A. There was a statement. I'm not sure --

Q. Did you review a one-page statement or a ten-page statement?

A. It was a one-page statement.

Q. So, if I told you that in evidence there's a ten-page statement from the Defendant, you hadn't reviewed that?

A. I did not.

Q. And did you review a video on disc of an interview or interviews with the Defendant and some police officers?

A. No.

Q. Didn't see those. Okay. In addition -- and no police reports?

A. I did not see the police reports.

Q. And in addition to what I have just mentioned, did you review the autopsy photographs?

A. Yes. At one point, Attorney Frost did send slides that had been prepared from the autopsy.

Q. We are talking about slides that you examine under a microscope?

A. No. These were slides, Kodachromes. They were pictures.

Q. Oh, pictures. I'm sorry. We don't hear about that too much any more with digital stuff. And were they the autopsy photographs or some other?

A. They were.

Q. So, you did review the photographs taken at the

autopsy?

A. I did, but it didn't help me in formulating my opinions.

Q. Okay. And you are not a pathologist, so it really was inconsequential?

A. That's correct.

Q. And I just asked you if there was some microscopic slides. You didn't review those; did you?

A. No.

Q. Now, I think you testified just a short while ago that you didn't see, in your review of the records, any evidence of Matthew having aspirated. Do you recall that?

A. I do.

Q. What would -- where would that evidence be and what would that evidence be?

A. It would be in the parents' narrative in terms of did the child, at any point in his feeding, choke, cough, have a swallowing difficulty. When you aspirate, you know it, and a parent would know it; that a child, instead of taking a bottle and swallowing it normally, was coughing, sneezing, choking, spitting up.

Q. Okay. But food isn't the only thing you can aspirate; is it?

A. In terms -- if we distinguish aspiration from swallowing. Swallowing is the normal mechanism by which any

materials, secretions in the upper respiratory tract, go into the stomach through the esophagus. Aspiration is an abnormal condition, where some foreign material or food is ingested and, instead of going into the stomach, goes into the lung.

Q. So, foreign material?

A. Yes.

Q. So, it doesn't have to be food?

A. It could be anything.

Q. Could be anything. Okay. And I think you said sometimes -- or that the aspiration occurs when the gag reflex is not acting appropriately?

A. Correct.

Q. And trauma can result in the gag reflex not acting appropriately; can't it?

A. If the trauma was sufficient that the child was comatose, in a coma, or there was sufficient -- so the gag reflex was not operating normally, then that could occur.

Q. How about a temporary loss of consciousness? Could that occur during such an event?

A. Well, if the loss of consciousness was accompanied by something in the mouth. So, let's say the child was feeding on a hamburger and got hit in the head and the gag reflex was aborted, then he could swallow the piece of hamburger into his lung, but it's not a normal secretion that you would be concerned about.

Q. [redacted] was only four months old, so I don't think he was eating any hamburgers. But say, for example, a four-month-old prematurely born child was thrown forcefully from the height of an approximately five-foot-nine man onto a mattress that was about seven feet -- excuse me, 17 inches off the floor. Would you consider that somewhat of a traumatic event?

A. I would consider it a traumatic event.

Q. Not something you would advise a parent to do; would you?

A. No.

Q. And if it, in fact, happened three times over a period of four days, it would be a series of traumatic events; would it not?

A. Yes.

Q. And might not such conduct result in a temporary loss of consciousness that could result in a compromise of the gag reflex?

MS. EFFMAN: Objection, speculation.

THE COURT: Overruled.

A. If the question is could it happen, the answer is yes, it could happen.

Q. And you are relying on no evidence of aspiration, just based on the parents' history; correct?

A. And the feedings; that the child was taking normally.

Q. And that came from the parents?
A. Yes.
Q. You didn't review the father's statement. So, you don't know what he said about the feedings or the history; do you?
A. Not the ten-page statement that you refer to.
Q. Now, would it be something that you would consider important if, on the third occasion of that slamming down process I described a couple of minutes ago, if there were reports that, once that ended, that the child was wheezing? Is that a significant event? Would that enter into your opinion or your evaluation of the processes here?
A. I think you would consider it, but I'm not sure how I would be able to interpret it in terms of his pneumococcal sepsis.
Q. Okay. Pneumococcal sepsis would be an inflammation of his lungs; correct?
A. Caused by the -- no. Sepsis is the general systemic infection caused by the pneumococcus.
Q. I see. But I think it's your theory here that this was a -- and I think the word is a fulminant?
A. It's not theory. It's based on fact.
Q. What fact is it based on?
A. The fact is the child has a positive blood culture; that he has, as I noted, a half a dozen parameters of sepsis

and septic shock. So, those are in the medical record and are fact.

Q. They are. I agree with you. But I think you posited that this infection came on Friday night or Saturday morning?

A. Well, Mom indicated that there was fever on Friday, so it was something that would have been some time before Friday.

Q. Mom also indicated there was a fever a week before, too?

A. Yes. I think, in the way this sepsis and septic shock evolved, that we are really dealing with those few days prior to the 21st, and I don't see an association with the events of the 13th.

Q. Okay. Well, what if the father said - and I believe he did just yesterday - that the child was feverish all week long?

A. I didn't see any of that in the medical record.

Q. Okay. But you are relying on history, though; correct?

A. The medical contemporaneously-obtained history.

Q. But if the father, and I'm positing this to you, if the father said the child was feverish all week long, that might change the equation; wouldn't it?

A. No. In the sense that it might indicate that the child had this pneumococcal infection that had been simmering

for several days producing the fever, but then the progression to the blood culture being positive and sepsis and septic shock was encapsulated within that short period from Friday to Sunday.

Q. Notwithstanding that there might have been traumatic events in the child's life on Wednesday and Thursday?

A. Right. I don't see where trauma has anything to do with the demise of the child due to infection.

Q. Now, would head trauma -- head trauma could affect the brain; correct?

A. Presumably, if there's damage to the brain, it would affect it.

Q. Does the brain play any role in the immune system of a child?

A. None.

Q. None?

A. None.

Q. Brain doesn't even send out signals to the body?

A. Brain sends out a lot of signals, but there are multiple mechanisms disassociated from the brain that are involved in immunologic protective factors.

Q. Okay. I think you said you read the testimony of Dr. Jenny?

A. I did.

Q. Didn't she say something along the lines of what I'm

talking to you about?

A. She did, and I disagree.

Q. So, what we have here is a professional disagreement amongst --

A. No.

Q. No?

A. We have somebody who's spent 50 years looking at infection and immunologic phenomena and a woman physician who's very competent in her area, which appears to be child abuse. So, I would think that her area of expertise in immunology and infectious diseases is far less than mine.

Q. Okay. And just as yours in head trauma would be far less than hers?

A. Agreed.

Q. Okay. Thank you. Now, the bleeding in the brain -- just to go back to that for a second. Would you agree with me, Doctor, that subdural hematomas, in the absence of major trauma or catastrophic trauma, like a car accident, subdural hematomas are usually the result of, in an infant, are usually the result of abuse?

MS. EFFMAN: Objection, beyond the scope of his expertise.

THE COURT: Sustained.

MR. GLASS: Your Honor, it appears to me that the Doctor is ruling out head trauma. I think I ought to

be able to inquire, to some extent, as to the basis for his opinion.

MS. EFFMAN: Your Honor, I object. He's already testified that he's not a neurologist.

THE COURT: Yes. I don't know that the Doctor ruled out head trauma or not. I think he stated his opinion based on his background. So, as of right now, I don't think there's a sufficient foundation. So, I'm going to sustain the objection. If a more detailed foundation is laid, you can certainly reask it, and I will consider it at that time.

Q. Now, I think we all agree, Doctor, that based on your review of the record, that when the child arrived at Samaritan Hospital, the Emergency Department, he, at that time, was already beyond the point of no return?

A. We know that.

Q. And I think your testimony was that the treatment he received there and the subsequent treatment he received at Albany Medical Center -- and I believe your words were appropriate and aggressive?

A. Yes.

Q. So, you had no quarrel with the way he was treated?

A. Correct.

Q. And that the doctor, the emergency room doctor, Dr. Kardos, engaged in - differential diagnosis - the first being

sepsis, I think?

A. Yes.

Q. And the second being intracranial abnormality/ trauma?

A. Yes.

Q. And then the third being dehydration; correct?

A. Yes.

Q. As you recall. And you understand or you know that at Samaritan Hospital, there wasn't an opportunity to work up the intracranial trauma or abnormality issue due to the instability of the child?

A. Yes.

Q. But they did that at Albany Med?

A. Yes.

Q. And is -- was Dr. Jenny's testimony the only testimony that you reviewed, or did you review the testimony of the other physicians, as well?

A. No. It was the only one.

Q. So, you didn't review the testimony of Dr. Edge, the critical care pediatrician?

A. I did not.

Q. And you didn't review the testimony of Dr. Waldman, the pediatric neurosurgeon?

A. No.

Q. Both of whom are board certified?

A. I did not.

Q. Would you be surprised to learn that they would disagree with your assessment today?

A. I wouldn't be surprised that a neurosurgeon would disagree with an infectious disease expert in matters of neurosurgery. I would be surprised if he would disagree with an infectious disease expert about infectious disease issues.

Q. Sure. But he agreed the sepsis was present and there, as did Dr. Edge, and in fact, as did the medical examiner, Dr. Sikirica. They agreed it was there. Their feeling was it was all secondary to the head trauma. Your position is it is not?

A. I'm not sure of the question. The question is -- would you ask the question again?

Q. You are right. That was more of a statement than a question. Let me ask a question. Ideally, if you were to treat a patient, would you rather treat a patient in person or from miles away just by looking at paper? And that's a double question. You would much rather treat a patient in person; wouldn't you?

A. You mean contemporaneously, at the time?

Q. Yes.

A. Of course.

Q. Dr. Edge, the critical care pediatrician, and Dr. Waldman, the pediatric neurosurgeon, they had the opportunity

to treat [redacted] right in person, right there in the hospital, and came to the conclusion that his death was neurological and that sepsis was secondary. And you, notwithstanding all of your experience, which is certainly impressive, reviewed some of the hospital records months later and came up with a substantially different conclusion; correct?

A. Yes.

Q. And that's because you have a difference of opinion with their findings?

A. No, it's not. It's because I have the advantage of hearing and reading the whole story. So, I have the advantage that the physicians who are taking care of the child at the time didn't have. I know what the autopsy showed. I know what the blood culture showed. I put together, in retrospect, now a year later, all of the information that was available and can give an opinion that this presentation and conclusion was due to overwhelming sepsis, which the physicians at the time had to deal with a minimum of information, only as the laboratory tests became available, and certainly not before the autopsy findings were available.

Q. Okay, but they just testified last week. All of that stuff was available to them, too, yet there's still this difference of opinion.

MS. EFFMAN: Objection, speculation as to what they testified to last week. The Doctor testified he did

not review the testimony of Waldman and Edge.

THE COURT: Overruled.

Q. So, it's a difference of opinion?

A. I'm not sure of the question.

Q. So, this is a difference of opinion between yourself -- the treating critical care pediatrician, Dr. Edge, and the treating pediatric neurosurgeon, Dr. Waldman, and you all have differences of opinion as to the cause of death?

A. Well, I think that there's a factual basis for my conclusion that includes --

Q. Is there a factual basis for theirs?

A. Can I finish my answer?

Q. I'm sorry. Go ahead.

A. And the factual basis is that he did have a positive blood culture for this organism. He did go into sepsis and septic shock. He did have all the parameters that I identifiec on the board, and the coagulopathy, the inability to maintain his temperature, his shock, that leads to death. So that, in itself, is an important cause of death. Any of the other factors, including the head trauma, are apart from that and not associated with the cause of death. The cause of death was due to overwhelming infection.

Q. Okay. And all those factors that you talked about that you put up on the board there - inability to maintain vital signs, low temperature, the low blood pressure, the

abnormal platelet counts, the inability to get oxygen, clotting issues and the glucose dropping - are all those signs exclusive to sepsis?

A. No, but they are in this framework of having an identifiable bacteremia and sepsis, are almost certainly associated with that process, rather than any other.

Q. But they are -- can be associated with many other conditions and diseases. Is that correct?

A. Not entirely, in the sense that we mentioned the DIC, the disseminated intravascular coagulopathy, which is almost always associated with infection. It's not associated with trauma. Trauma can cause it, but the vast majority of infants and children that we see are due to infection. So, it doesn't eliminate other possibilities, but the vast majority of cases will be associated with sepsis, and we have documented bacteremia in this case.

Q. Did you just say trauma can cause coagulopathy?

A. I believe that Dr. Jenny has a paper on that.

Q. So, in that respect, you agree with her?

A. No. I agree with her that it's a factor, but that it was not a cause of this child's death.

Q. So, in that respect, you disagree with her?

A. Well, if she said that trauma caused the death, then I would disagree with her.

Q. Well, she did say that. Now, not being a

pathologist, you don't have to sign death certificates; do you?

A. No.

Q. Have you ever had to sign a death certificate?

A. I have.

Q. But it's something rare in your capacity as a pediatrician; is it not?

A. Well, as a consultant, it would probably be the primary physician who would sign the death certificate.

Q. Or, perhaps, the medical examiner?

A. If that were the routine, yes.

Q. Okay. In fact, there was a medical examiner in this case who did a full autopsy. You reviewed the report; correct?

A. I did.

Q. Find any deficiencies there?

A. No. I took the report at face value.

Q. And although it doesn't mention the word sepsis, the medical examiner doesn't disagree that sepsis is there?

A. No, and he identifies the positive blood culture.

Q. Sure. But he also -- also, you may recall the date of the autopsy report was several months past the date of death?

A. I don't recall.

Q. Well, it's in evidence. Maybe we can take a look at it. Doctor, I'm going to show you what's been marked as People's Exhibit 35, and I ask you to take a look at that,

please. Do you recognize that exhibit, Doctor?

A. I do.

Q. And what do you recognize it to be?

A. The final autopsy report.

Q. And is that the same one that you reviewed?

A. Yes.

Q. Okay. And when is it dated?

A. The date of the autopsy is September 25, 2008.

Q. When is the final report dated?

A. Well, the cover letter indicates April 22, 2009.

Q. Okay. So, that would be five, six months or so after the date of the autopsy?

A. Yes.

Q. And Dr. Sikirica is a board certified forensic neuro -- forensic pathologist, neuropathologist, and a couple others besides. And he had several months to review all the documents and all the records. And would you agree he came up with a different conclusion than you did?

A. Well, he lists four anatomic diagnoses.

Q. Right.

A. I don't know whether that means they are in order of priority. The first is severe closed head injuries; second is blood culture positive for streptococcus pneumoniae, spelled wrong; third is severe anoxic type changes of the heart; and the fourth is status post donation of multiple internal organs.

Q. But the first one is closed head injury?
A. It is.
Q. Head trauma?
A. Yes.
Q. And did you say organ donation, as well?
A. The fourth.
Q. And would it be common for someone with overwhelming septic shock to have their organs harvested for donation?
A. No.
Q. Happened here?
A. I don't know the consequences of anybody getting an organ from this child.
Q. I believe there was testimony that there was successful transplantation?
MS. EFFMAN: Objection. This witness didn't hear that testimony.
THE COURT: Overruled.
Q. Let me ask you this: Would you be surprised if there was successful transplantation of organs from this child?
A. No. The child had received, by the time of his demise, enough antibiotics that the organisms probably were dead, but I think it was not optimal. You would not want to transfer an organ from a child who is bacteriemic.
Q. Okay. I'm going to show you what's been marked as People's Exhibit 34 which is in evidence and ask if you would

look at that. Do you recognize that, Doctor?

A. I do.

Q. Did you have an opportunity to see that before?

A. Yes.

Q. And what is that?

A. It's a certificate of death.

Q. And that lists a cause of death; doesn't it?

A. It does.

Q. And what is the cause of death listed there?

A. The immediate cause is severe closed head injuries with cerebral edema due to blunt force trauma.

Q. And you disagree with that?

A. I do.

Q. I'm going to show you what's been marked as People's Exhibit 33 which is in evidence, Doctor, and ask you to look at that. Do you recall seeing that image before, Doctor?

A. I think it may have been among the pictures that Attorney Frost gave to me, but I had difficulty interpreting it, so I felt I wasn't competent to make -- to provide an opinion.

Q. Okay. Well, let me ask you this: Do you know what a -- and I don't mean to be condescending, but do you know what a subgaleal hemorrhage is?

A. Yes.

Q. Do you recognize anything on there as a subgaleal

hemorrhage?

A. I would leave that -- as a general pediatrician, I do, but I don't have any expertise in that area.

Q. Okay. Thank you. Just so I'm clear, and I don't mean to beat this to death, but the subdural hematomas that were found in the child's head, you saw the photographs of that?

A. I did.

Q. And just so I'm clear, you are attributing that to the coagulopathy problem?

A. No. What I said in the direct examination was that, if you have a clotting problem - you can't clot - that you can have bleeding in any organ, and the autopsy indicates there's bleeding in the heart and in the testes, and that bleeding could occur in any organ, the lungs or the brain or the retina; so that I'm saying it may be a part of the bleeding that occurred.

Q. So, you can't say with any degree of certainty that that subdural hematoma was not caused by trauma?

MS. EFFMAN: I object. This is beyond the scope of this particular witness' expertise.

THE COURT: Overruled. The witness can answer it, if he can.

A. I can only answer that the clotting problem made for a difficulty in stemming bleeding in any organ.

Q. Do you know when those subdural hematomas were created?

A. No.

Q. So, it's conceivable they could have been created before the coagulopathy problem surfaced. You don't know?

A. I don't know.

Q. Now, you are testifying here today as an expert witness, and you have done that before, although I think you testified that this is the first criminal case you've testified in?

A. That's correct.

Q. Well, welcome to criminal court. Now, how much of your income comes from case review and testifying?

A. About 10 to 20 percent.

Q. And how much did you make last year from consulting on cases, either in anticipation of litigation or in litigation itself?

A. There are two parts of that question. One is any monies that are part of my working day go to the Department of Pediatrics. They have a Child Health Foundation. So, the monies that I have personally are either on vacation days, as today, or evenings and weekends. So, the money from -- that goes to the Child Health Foundation last year would be, and I would have to speculate, because I don't know exactly, about $80,000.

Q. Okay. Now, this year, how many trials have you testified in this year?

A. One.

Q. Plus today?

A. Plus today.

Q. And none of those were criminal cases?

A. No. The one -- actually, two. They were both part of the Vaccine Injury Compensation Program that I mentioned, where an alleged injury due to a vaccine occurred and a Special Master conducts a trial with expert witnesses that present for the Government and for the Plaintiff.

Q. And when you testify at those, you almost exclusively testify for the Government. Is that correct?

A. Yes.

Q. And I think you testified that you frequently testify in medical malpractice cases?

A. I do.

Q. And you don't discriminate whether it's the Plaintiff or the Defendant in that case?

A. No.

Q. But when you testify in those, you get compensated?

A. I do.

Q. And you get compensated for your preparation and for your testimony, if it should occur, and for your expenses; correct?

A. That's correct.

Q. And you charge more in private malpractice cases than you are charging for us or for the defense here today; correct?

A. I agreed to a stipend as Attorney Frost suggested.

Q. I understand that; that today -- what was it; 7500 for testimony?

A. No.

Q. 5,000 for testimony and 2500?

A. That's correct.

Q. And that is somewhat of a discount, though; correct?

A. Depending on the number of hours, it probably is.

Q. And if you were testifying at a medical malpractice case for a plaintiff or maybe a defendant, a doctor, your fee would probably be much higher; right?

A. It would be by the hour.

Q. And what would the hourly rate be?

A. It would be $500 an hour.

Q. And if -- strike that. Now, in addition to the fee that you got, your expenses are going to be reimbursed here today, as well; correct?

A. Correct.

Q. Now, Doctor, I have to ask you: Do you recall the Leary litigation back in the early 1990's?

A. No.

Q. It was one of those Vaccine Injury Compensation

cases?

A. I don't recall the name.

Q. That you testified as an expert witness in for the Government, for the Department of Health and Human Services. Are you aware that there was a Law Review article a few years ago that was critical of your testimony in that case?

A. No.

Q. You are not aware of that?

A. I am not.

Q. Do you mind if I tell you about that?

A. Please.

Q. Now, maybe if I explain to you the Leary case a little bit. It was a child who had received a third DPT shot. Can you explain for me what that is?

A. It's one of the infant immunization series. It's diptheria, tetanus and pertussis or whooping cough.

Q. That's a common vaccination?

A. Not any more, in the sense that the pertussis vaccine has been replaced by a so-called acellular pertussis.

Q. In 1984, it was common?

A. It was standard.

Q. And two days after the Leary child got the third shot, he died, and the parents filed a claim, as was common and is common, and they filed it in the -- is it the Federal Court of Claims?

A. Well, the process that started about 1985 is that it goes directly to this system of Vaccine Injury Compensation. So, whether that's -- I'm not sure what the term is, whether that's Federal Court or not, but it is Department of Justice.

Q. And you testified in that trial on behalf of the Department of Health and Human Services, and I believe your testimony, your expert testimony, and I'm maybe paraphrasing it, but essentially the -- your opinion at that time was that the death of the child and the immunization two days previously were merely coincidental and one had nothing to do with the other. Okay? Trust me on that?

A. I do.

Q. And the Law Review article --

A. Before you progress, which immunization was that? Was it two-month or four-month or six-month?

Q. It was the third immunization.

A. So, it would have been six months.

Q. The Law Review article is the Number 37 California Western School of Law Law Review in the spring of 2001. And your testimony was criticized because, at the time that you rendered that opinion regarding the vaccination and death being coincidental but not connected, that you, in fact, were -- had a relationship, a business relationship with Wyeth-Lederle - is it - the laboratory or the drug manufacturer?

A. Well, the vaccine manufacturer has gone through

multiple name changes.

Q. Sure.

A. But I would have been involved with their pneumococcal vaccine, not their DPT vaccine.

Q. But DPT at that time was the standard, and Wyeth-Lederle was one of the biggest manufacturers of that vaccine; weren't they?

A. Yes, but I had no advisory relationship about DPT.

Q. But you had a relationship with Wyeth-Lederle?

A. Related to pneumococcal vaccine.

Q. But they had an interest in DPT; didn't they?

A. Well, you know, I don't recall any of the specifics of the case as you related, but if they were the manufacturer of DPT, that may have been, but I had no relationship to that vaccine.

Q. To the vaccine. But you did through the company that made that vaccine?

A. Yes.

Q. And in fact -- and at that time, you were the chief editor of Pneumo.Com?

A. Yes.

Q. That doesn't exist anymore; right?

A. No. It was a Web site that was very effective in talking about pneumococcal diseases, where both parents and physicians could send in e-mail on that Web site and have their

answers be responded to.

Q. And in fact, Wyeth-Lederle paid for that Web site?

A. They did.

Q. And you probably get where I'm going. There appears to be a clear conflict of interest there?

A. It depends on how you determine conflict of interest. I had nothing to do with DPT vaccine. Everything that has been related had to do with pneumococcal disease, which is the subject of what we are talking about today.

Q. But your ultimate opinion was that the child, given your opinion that there was no relationship between the death and the vaccine, that he should not be given any compensation; correct?

A. That they were unassociated, yes.

Q. Yes. But, in fact, the Court disagreed with you and awarded compensation in that case?

A. I don't recall that.

Q. I will ask you to trust me, but that's what I read.

A. I trust you. So, what was the criticism from the Law Review?

Q. The criticism was there was a clear conflict of interest, because you had an interest in Wyeth-Lederle, and here you are testifying against Wyeth-Lederle at a contested litigation?

A. Usually in the court proceedings, if you've got a

good attorney for the plaintiff, they will bring that out, and I would imagine that would have been developed during the testimony.

Q. Let me ask you this: Did you disclose it on your own voluntarily?

A. If the question about conflict of interest with the vaccine manufacturer was asked, I would have.

Q. But as you sit here, you have no recollection of that?

A. I have no recollection of the case.

Q. And we don't have to worry about any conflict of interest here today; correct?

A. Well, I have indicated my conflicts of interest; that I have been involved in pneumococcal diseases, pneumococcal vaccines, and have served on advisory committees to vaccine manufacturers for pneumococcal vaccines.

Q. But other than the compensation you talked about, you are not receiving any other compensation here today or any other considerations; are you?

A. I think -- I don't understand the question. You mean is there a conflict of interest that's involved?

Q. I'm asking you.

A. Aside from being on advisory committees for pneumococcal vaccines, which don't enter into the discussion today, I don't see any conflict.

Q. Before you came here today, you have consulted with members of the defense team. How many times have you talked to them?

A. Attorney Effman and Attorney Frost came to Boston twice.

Q. And for how long did you meet; do you recall?

A. Each time, it would have been a couple of hours.

Q. And you spoke on the phone with them from time to time?

A. Yes.

Q. And in addition to that, did you meet with them before testifying today?

A. Last night.

Q. For approximately how long was that?

A. Let's see. Dinner would have been from 6:30 to 7:30, and then 7:30 to 9:30.

Q. And, then, you are aware they are advancing a theory here of not head trauma causing death, but overwhelming septic shock?

A. I don't see it as they're advancing it. I'm advancing it, and not a theory.

Q. Okay. Well, I guess that's one of those opinion things. And you are doing that notwithstanding that [redacted] death was, at least officially on the death certificate, ruled a homicide; right?

A. Yes.

Q. So, you disagree with that?

A. Yes. [redacted] death was due to overwhelming pneumococcal sepsis.

Q. Now, ordinarily -- frequently during consultations, you write a report for the people who are consulting with you; correct?

A. You mean in the hospital?

Q. Well, whether it's a hospital consultation or a litigation consultation?

A. Yes.

Q. Do you write reports from time to time?

A. Yes.

Q. Did you write a report in this case?

A. No.

Q. Were you asked to?

A. No.

Q. And other than the notes that you provided here today, did you have any other notes?

A. No.

Q. Now, do you know if, when you met with the defense attorneys, they were taking notes?

A. I assumed they were.

Q. You don't have a specific recollection of them jotting down notes as you were talking?

A. I think each time we discussed, they were taking notes.

MR. GLASS: I would ask to be provided with those, Your Honor.

MS. EFFMAN: May we approach, Judge?

THE COURT: Yes.

(Sidebar discussion held at follows:)

MS. EFFMAN: Your Honor, my position is that that is attorney work product, any notes that I took in this case. He has voluminous notes. I have copied them and provided them. Any notes that he took and reviewed of the file have been turned over. I think anything I wrote down is an attorney work product.

MR. GLASS: I don't think so. I think if we had made notes, we would have to turn them over as *Rosario*. I don't see the difference. *Rosario* is reciprocal.

THE COURT: That's your only argument?

MS. EFFMAN: I think it's attorney work product.

MS. BOOK: You are summarizing what a witness is telling you. That's exactly what falls under *Rosario*. We are at a disadvantage here; that we didn't get them until now. This is a clear violation of *Rosario*.

THE COURT: I agree.

MR. FROST: First off, it's not *Rosario*. It's Section 240 -- I forget which of the CPL, but it is not

Rosario. *Rosario* pertains specifically to any written memoranda the defense would have of a witness or memorandum by a witness. What we are talking about here is -- that's a witness for the prosecution. There is no *Rosario* rule that applies to the defense. There is a disclosure obligation under CPL 240 - I forget the specific section - but 240 whatever it is, 240.44, but it is not *Rosario* material.

THE COURT: But do you contest that under that section of the CPL --

MR. FROST: I think we would have to take a look at the section, Judge.

THE COURT: Okay.

MR. GLASS: I apologize. I think I used the word *Rosario* generically. I believe Mr. Frost is correct about that.

THE COURT: What we are going to do is --

MR. FROST: There is nothing there other than --

THE COURT: Okay. Do you have the section of that, Ms. Book?

MS. BOOK: (Offering.)

THE COURT: Before we go any further, you are objecting to turning these notes over. Is that correct?

MR. FROST: We are saying they are not covered by that section.

THE COURT: But are you consenting to disclose them? I mean, we can stop this.

MR. FROST: Can I see the section?

THE COURT: Of course.

(Discussion off the record between defense counsel.)

MR. FROST: They are referring to the witness himself, Your Honor. They are not referring to the attorney.

MS. EFFMAN: And I'm sure they met with Dr. Jenny. I wasn't supplied with any written notes from Dr. Jenny.

MS. BOOK: There were no notes.

MR. FROST: It says made by the person.

THE COURT: What's the People's response that any written recorded statement made by a person, other than the defendant, whom the defendant intends to call as a witness, Subsection 2A?

MS. BOOK: I know that there's case law that says if you write down a statement of someone else -- just as when we met with Wilhemina pretrial. We handed that over, because they were statements given to us. Case law definitely extrapolates it.

MR. FROST: *Rosario* requirements are extremely different. This is specific, and it was before -- this is

a breach of the statute, *Rosario*. It's very widely developed over the years by the Court of Appeals, and it includes literally everything. This is not *Rosario*, as Mr. Glass can see, and the statute says made by a person.

THE COURT: I agree.

MR. FROST: It has to be made by him.

MS. BOOK: It says made by a person, other than the defendant, who the defendant intends to call as a witness to the trial and relates to the subject matter of the witness' testimony. It depends on how you read the commas. A person could make a note pertaining to the person they intend to call relating to the subject matter.

THE COURT: My reading of the statute, it is clear that it would not allow for what you are seeking at this point. Now, if you think that there is case law which supports your position, or you are requesting, we can break for lunch now, and then I will give both sides an opportunity.

MR. FROST: Can you give us a moment?

THE COURT: Sure.

MR. FROST: Let Ingrid take a look at her notes.

THE COURT: That would be my preference. Go ahead and take a moment.

(Brief recess taken.)

MS. EFFMAN: May we approach, Judge?

THE COURT: Yes.

(Sidebar discussion held as follows:)

MS. EFFMAN: We feel that from reading the section cited, that we are not required to turn over our -- any handwritten notes we took ourselves. We are required to turn over his notes. During the recess, we can both research the point. If we find any cases on the relevant point --

MS. BOOK: I already found one. It applies to District Attorneys, but considering that the rule is identical when it comes to the defense --

MS. EFFMAN: They have the burden of proof.

THE COURT: Okay. Let her go ahead.

MS. BOOK: There's a Consolazio case that encompasses a District Attorney's handwritten notes of a person's --

MS. EFFMAN: I don't see where there's any case law that says an actual defense lawyer has to turn over their note from a defense witness.

THE COURT: If you are not going to consent, which you don't have to do, we will break for lunch now. I'm going to look into it myself. We will break until two o'clock. You can give me any law you want, and I will rule on it.

(Proceedings continue in open court as follows:)

THE COURT: Okay. Members of the jury, we are going to break for lunch at this point. We are going to break until two o'clock. So, that's about an hour and ten minutes, just about. Please do not discuss the case among yourselves or with anyone else. Do not read or listen to any media accounts of this case. Do not visit any premises involved in this case. Do not conduct any research regarding this case. Do not request or accept any payment in return for supplying any information regarding this case. Do not make any judgments regarding this case until you have heard all of the evidence and been instructed as to the law. And if anyone attempts to improperly influence you, please report it directly to me without discussing it with anyone else first. Enjoy your lunch. We will see you back here at two o'clock. Thanks.

(Jury excused.)

THE COURT: Doctor, given that you are still a sworn witness, I would ask you to please refrain from discussing this case or your testimony with anyone until your testimony is complete.

THE WITNESS: Understood.

(A luncheon recess was taken.)

(Proceedings continue outside the presence of the jury as follows:)

THE COURT: Okay. We are back on the record.

When we broke, we had an issue as to whether the notes taken by defense counsel in connection with their interview with Dr. Klein were discoverable. Do the People want to be heard any further on that issue?

MS. BOOK: Your Honor, I did a little research on the break. I again cite the People versus Consolazio, Court of Appeals case from 1976, 40 NY2d 446. Did the Court find that case?

THE COURT: No.

MS. EFFMAN: Do you have a copy of that?

MS. BOOK: I just have one copy. In this case, the -- basically, what the issue was was whether or not the District Attorney's Office, taking handwritten notes of something that their witness related to them, whether or not that fell within the confines of *Rosario,* and the Court held that it did; that any handwritten notes of the District Attorney's Office fell within *Rosario* and had to be turned over.

Additionally, in People versus Kozlowski, a Court of Appeals case from 2008, it basically reaffirmed that same rule with respect to prosecutors; that handwritten notes of witness' testimony did constitute or fall within what had to be turned over as *Rosario* material. I could not find a case that cited the converse was true for the defense.

THE COURT: I've got one for you.

MS. BOOK: Great.

THE COURT: We will let the defense be heard first.

MR. FROST: It is our position, Your Honor -- the Court has heard our position, Your Honor.

THE COURT: The Court cites People versus Charron, C-H-A-R-R-O-N, 198 AD2d 722, a 1993 Third Department case, which quotes as follows: "Defendant initially contends that County Court committed error when it required disclosure of a single page of notes made by Defendant's counsel during the course of a pretrial interview of a defense witness prior to direct testimony. We disagree. Under CPL 240.45(2)(a), the Defendant has an obligation to turn over to the People any written or recorded statement made by a person other than the Defendant whom the Defendant intends to call as a witness at the trial and which relates to the subject matter of the witness' testimony. This disclosure is required to be made after presentation of the People's direct case and before the presentation of the Defendant's direct case. Because defense counsel took no pretrial statement from the witness, the notes were properly considered as a substitute. We note that County Court redacted the notes to delete the proposed questions which defense counsel

intended to ask and, thus, only required disclosure of those portions that were deemed declarative. We discern no prejudice to Defendant in the Court's use of this procedure."

Based on that holding from the Third Department, which is certainly controlling on this Court, I will order that the notes be turned over. However, if defense counsel feels that there are portions of the notes which should be redacted, I would be happy to conduct an in camera review of them.

MS. EFFMAN: I copied the notes on lunch hour, in the event the Court directed me to turn it over. There will be no redactions necessary.

MS. BOOK: We would ask for a couple of minutes to review those, and the same thing is true of Dr. Leestma or any other witnesses that may be testifying; if there are any notes, we ask that they be turned over.

THE COURT: Again, based on the case that I just cited, if there are any notes, the Court would order them to be turned over, again, unless the defense contends that there are portions which should be reviewed by the Court in camera, I will do so.

MS. EFFMAN: I will copy any notes I have regarding Dr. Leestma. I will turn them over today to the District Attorney's Office. The other witness today, I

have made no notes.

THE COURT: You would like a few moments now to review those notes?

MR. GLASS: It shouldn't take too long.

THE COURT: Take your time.

(Brief recess taken.)

MR. GLASS: We are ready, Your Honor.

THE COURT: Ms. Effman?

MS. EFFMAN: Defense is ready, Your Honor.

THE COURT: Doctor, I will ask you to resume the witness stand, please.

COURT OFFICER: Jury is entering.

(Whereupon, the jury entered the courtroom.)

THE COURT: Please be seated. The sworn witness remains Dr. Klein. Mr. Glass, whenever you are ready, you may proceed.

MR. GLASS: Thank you, Your Honor.

BY MR. GLASS: (Continuing)

Q. Good afternoon, Doctor. I think I'm going to try to wrap this up fairly quickly. One of the things I wanted to clear up, you made reference to the fact that there was retinal hemorrhages present?

A. Yes.

Q. Do you recall that?

A. I do.

Q. And I think, and correct me if I'm wrong, you contributed that to the coagulopathy issue?

A. No.

Q. You corrected me, then.

A. What I said was that, as a result of the coagulopathy, there could be bleeding into any organ. It could be a systemic event. So, it could be into the foot. It could be into the intestinal. We have evidence from the autopsy that it was in the testes and the heart and that it could be in the -- a contributor to the retinal hemorrhage and the bleeding in the brain.

Q. Okay. And in fact, not only were the hemorrhages in the retina itself, but they were in the optical nerve sheath, and they were described as severe and acute. Is that correct?

A. That's in the province of an ophthalmologist. I would not comment on those distributions.

Q. Okay. Well, didn't you read that in the autopsy report, what I just described?

A. I don't recall.

Q. But I think earlier you stated that, yes, there can be bleeding in any organ when there is coagulopathy, but it's not spontaneous bleeding; correct?

A. No. If you have the DIC, the disseminated intravascular coagulopathy, which is due to the pneumococcal sepsis in this case, it's not spontaneous. It's caused by the

pneumococcus.

Q. And the -- is that the only reason that there might be retinal hemorrhaging?

A. That's part of the progression of the pneumococcal sepsis that led to death in this case. So, there could be bleeding into any organ, including the retina or the brain.

Q. And there could be bleeding as a result of some other cause unrelated to the coagulopathy; could there not?

A. I would leave that to the experts in ophthalmology and neuroanatomy or neuropathology.

Q. But based upon your experience as a pediatrician of a long tenure, isn't it a fact that trauma can cause retinal hemorrhaging?

A. Trauma can cause retinal hemorrhaging.

MR. GLASS: Thank you, Doctor. I have no further questions at this time.

THE COURT: Any redirect from the defense?

MS. EFFMAN: Briefly, Judge.

REDIRECT EXAMINATION

BY MS. EFFMAN:

Q. Doctor, in the records that you reviewed and the mother's statement that you reviewed, is there any evidence of loss of consciousness or abnormal feeding; in the records, or from the mother, the records of Samaritan Hospital and Albany Medical Center?

A. No. There is no such indication.

Q. And can you tell the jury whether the chest x-rays taken at Samaritan Hospital and Albany Medical Center show any evidence that this child aspirated?

A. They do not.

Q. And Doctor, finally, one last question. Did alleged head trauma have anything to do with this child's death?

A. This child died of overwhelming infection. Trauma had nothing to do with overwhelming infection.

MS. EFFMAN: No further questions.

MR. GLASS: No questions, Your Honor.

THE COURT: Doctor, thank you very much. You may step down.

MS. BOOK: May we approach before the next witness?

THE COURT: Yes.

(Sidebar discussion held as follows:)

MS. BOOK: Judge, Ms. Effman just gave me a report, I think relating to the next witness, a Dr. Ushkow. The People would like an offer of proof before this witness comes on.

MS. EFFMAN: Dr. Ushkow is a relevant witness. He saw the child on the 13th of September at Samaritan Hospital. The indictment alleges that the Defendant committed crimes starting on the 10th of September, 2008.